

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (currently amended) A packet relay processing apparatus having a network connecting device as a network adapter, wherein
the network connecting device comprises
a session managing unit managing a session, and
a packet processing unit relaying a packet based on session management made by said session managing unit.
2. (original) The packet relay processing apparatus according to claim 1, wherein the network connecting device further comprises
a routing table storing routing information about a routing destination of a packet,
and
a routing processing unit determining the routing destination of the packet based on the routing information at the start of a session; and
said packet processing unit outputs the packet to the routing destination.
3. (original) The packet relay processing apparatus according to claim 2, further having a server, wherein
the server comprises
a network controlling unit writing routing information to said routing table.
4. (original) The packet relay processing apparatus according to claim 1, further having a server, wherein:
the server comprises
an external session managing unit managing a session;
said session managing unit transfers session information about a session depending on a given condition; and
said external session managing unit manages the session based on received

session information.

5. (original) The packet relay processing apparatus according to claim 1, wherein the network connecting device further comprises

- a process distributing unit, and
- a plurality of service processing units;

said process distributing unit distributes a packet to at least one of said plurality of service processing units based on contents of a service for the packet; and

- a service processing unit to which the packet is distributed performs a service process for the packet.

6. (original) The packet relay processing apparatus according to claim 5, further having a server, wherein:

- the server comprises
- an external service processing unit;

said process distributing unit transfers a packet to the server depending on a given condition; and

- said external service processing unit performs a service process for a received packet.

7. (original) The packet relay processing apparatus according to claim 1, further having a server, wherein:

- the server comprises
- a packet details analyzing unit;

the network connecting device further comprises

- a process distributing unit, and
- a plurality of service processing units;

said process distributing unit transfers a packet to said packet details analyzing unit depending on a given condition; and

- said packet details analyzing unit determines contents of a service for the packet by analyzing the packet and sets the determined contents of the service in the network connecting device; and
- the network connecting device processes the packet based on the contents of the determined service, after the contents of the service are set.

8. (original) The packet relay processing apparatus according to claim 5, wherein said service processing unit has a capability for rewriting a header of a packet.
9. (original) The packet relay processing apparatus according to claim 5, wherein said service processing unit has a capability for discarding a packet.
10. (original) The packet relay processing apparatus according to claim 5, further having a server, wherein
said service processing unit has a capability for determining a distribution destination of a load in order to distribute a load on the server.
11. (Currently amended) ~~The~~ A packet relay processing apparatus having a network connecting device according to claim 5, wherein
the network connecting device comprises
a session managing unit managing a session,
a packet processing unit relaying a packet based on session management made by said session managing unit;
a process distributing unit,
a plurality of service processing units;
said process distributing unit distributes a packet to at least one of said plurality of service processing units based on contents of a service for the packet; and
a service processing unit to which the packet is distributed performs a service process for the packet;~~the network connecting device further comprises~~
a session table storing session information about a session, and
a policy table storing a policy which describes a rule for executing a service for a packet;
said session managing unit searches said session table by using information included in the packet as a search key, upon receipt of the packet;
if corresponding session information is not registered to said session table as a result of the search, said session managing unit obtains a corresponding policy from said policy table by using the information included in the packet as a search key, and writes session information to said session table based on the obtained policy; and
if corresponding information is registered to said session table as a result of the

search, said session managing unit manages the session information stored in said session table based on a state of the session.

12. (original) The packet relay processing apparatus according to claim 11, further having a server, wherein

the server comprises

a service controlling unit writing a policy to said policy table.

13. (original) The packet relay processing apparatus according to claim 11, wherein the search key used when said session table is searched includes destination and source IP addresses, a protocol, destination and source port numbers, and an input interface of an IP packet.

14. (original) The packet relay processing apparatus according to claim 11, wherein said session table stores as entries a search key, a session state, an applied service type, and information specific to the applied service type.

15. (original) The packet relay processing apparatus according to claim 11, wherein said policy table stores as entries destination and source IP addresses, a protocol, destination and source port numbers, an applied service type, and information specific to the applied service type, and a priority of an IP packet.

16. (original) The packet relay processing apparatus according to claim 1, wherein said session managing unit waits for a predetermined time period from a termination of a session, and deletes session information about the terminated session unless the terminated session is resumed while waiting for the predetermined time period.

17. (original) The packet relay processing apparatus according to claim 1, wherein the network connecting device further comprises

a counter for obtaining statistical information about a packet.

18. (original) The packet relay processing apparatus according to claim 11, wherein a plurality of policies are divided into a plurality of groups; and the network connecting device sets whether or not each policy is valid for each of the

plurality of groups.

19. (original) The packet relay processing apparatus according to claim 12, wherein the network connecting device transfers at least part of a packet to the server in order to record a log of the packet.

20. (original) The packet relay processing apparatus according to claim 18, wherein the part of the packet is a header of the packet.

21. (original) The packet relay processing apparatus according to claim 12, wherein: the session information includes server transfer instruction information indicating whether or not to transfer a packet to the server; and said process distributing unit determines whether or not to transfer the packet to the server based on the server transfer instruction information.

22. (original) The packet relay processing apparatus according to claim 7, wherein if a packet transferred to the server is an HTTP protocol GET packet, said packet details analyzing unit determines a service for the packet based on a URL (Uniform Resource Locator) included in the packet.

23. (original) The packet relay processing apparatus according to claim 7, wherein if a packet transferred to the server is an ACK packet for an FTP protocol PORT or PASV command, said packet details analyzing unit determines a service for the packet based on IP address and port number of a data connection corresponding to a session.

24. (original) The packet relay processing apparatus according to claim 7, wherein said packet details analyzing unit makes a reply instead of a distribution destination server until the distribution destination of a load on the server is determined, if a process for distributing a load on the server is performed.

25. (original) The packet relay processing apparatus according to claim 21, wherein said packet details analyzing unit writes an applied service type for a packet, IP address and port number for translation, and sequence number and ACK number differences to said session table by analyzing the packet.

26. (currently amended) A network connecting device as a network adapter for use in a packet relay processing apparatus, comprising:

a session managing unit managing a session; and

a packet processing unit relaying a packet based on session management made by said session managing unit.

27. (original) The network connecting device according to claim 26, further comprising

a server transferring unit transferring session information about a session to a server comprised in the packet relay processing apparatus depending on a given condition, wherein the server manages the session according to the transferred session information.

28. (original) The network connecting device according to claim 26, wherein the network connecting device further comprises

a process distributing unit, and

a plurality of service processing units;

said process distributing unit distributes a packet to at least one of the plurality of service processing units based on contents of a service for the packet; and

a service processing unit to which the packet is distributed performs a service process for the packet.

29. (original) The network connecting device according to claim 28, wherein

said process distributing unit transfers a packet to the server comprised in the packet relay processing apparatus depending on a given condition, and makes the server perform the service process for the packet.

30. (original) The network connecting device according to claim 26, further comprising

a process distributing unit, and

a service processing unit, wherein

said process distributing unit transfers a packet to the server comprised in the packet relay processing apparatus depending on a given condition in order to make the server determine a service for the packet; and

the service processing unit processes a packet of the session based on contents of the service determined by the server, after the service is determined by the server.

31. (currently amended) A storage medium on which is recorded a program for causing a computer comprised as a network connecting device to execute a process, the process comprising:

managing a session; ~~and~~

relaying a packet based on session management;

storing session information about a session, and

storing a policy which describes a rule for executing a service for a packet;

searching said session table by using information included in the packet as a search key, upon receipt of the packet;

if corresponding session information is not registered to said session table as a result of the search, obtaining a corresponding policy from said policy table by using the information included in the packet as a search key, and writes session information to said session table based on the obtained policy; and

if corresponding information is registered to said session table as a result of the search, managing the session information stored in said session table based on a state of the session.

32. (original) The storage medium according to claim 31, the process further comprising:

transferring session information about the session to a server connected to the network connecting device depending on a predetermined condition in order to make the server manage the session.

33. (original) The storage medium according to claim 31, the process further comprising:

distributing a packet to a device or a program segment, which performs a process corresponding to a service, based on contents of a service for the packet.

34. (original) The storage medium according to claim 31, the process further comprising:

transferring a packet to a server connected to the network connecting device depending on a given condition in order to make the server perform a service process for the packet.

35. (original) The storage medium according to claim 31, the process further comprising:

transferring a packet to a server connected to the network connecting device in order to make the server determine a service for the packet; and

processing the packet based on contents of a determined service after the service for the packet is determined by the server.

36. (currently amended) A storage medium on which is recorded a program for causing a server, which configures a packet relay processing apparatus relaying a packet, to execute a process, the process comprising

setting a policy describing a rule for executing a service for a packet in a network connecting device so that the network connecting device as a network adapter comprised in the packet relay processing apparatus processes the packet.

37. (original) The storage medium according to claim 36, the process further comprising

receiving a packet transferred from the network connecting device, and executing the service for the received packet.

38. (currently amended) A storage medium on which is recorded a program for causing a server, which configures a packet relay processing apparatus relaying a packet, to execute a process, the process comprising:

receiving a packet transferred from a network connecting device as a network adapter comprised in the packet relay processing apparatus;

determining contents of a service for the packet by analyzing the packet; and

setting the contents of the determined service in the network connecting device in order to make the network connecting device process the packet based on the contents of the determined service.

39. (currently amended) A computer data signal embodied in a carrier wave and representing a program for causing a computer comprised as a network connecting device to execute a process, the process comprising:

managing a session; and

relaying a packet based on session management;
storing session information about a session, and
storing a policy which describes a rule for executing a service for a packet;
searching said session table by using information included in the packet as a search key,
upon receipt of the packet;

if corresponding session information is not registered to said session table as a result of
the search, obtaining a corresponding policy from said policy table by using the information
included in the packet as a search key, and writes session information to said session table
based on the obtained policy; and

if corresponding information is registered to said session table as a result of the search,
managing the session information stored in said session table based on a state of the session.

40. (currently amended) A computer data signal embodied in a carrier wave and representing a program for causing a server, which configures a packet relay processing apparatus relaying a packet, to execute a process, the process comprising

setting a policy describing a rule for executing a service for a packet in a network connecting device ~~which configures as a network adapter comprised in~~ the packet relay processing apparatus ~~so that the network connecting device processes the packet.~~

41. (currently amended) A computer data signal embodied in a carrier wave and representing a program for causing a server, which configures a packet relay processing apparatus relaying a packet, to execute a process, the process comprising:

receiving a packet transferred from a network connecting device as a network adapter which configures the packet relay processing apparatus;

determining contents of a service for the packet by analyzing the packet; and

setting the contents of the determined service in the network connecting device in order to make the network connecting device process the packet based on the contents of the determined service.